RECLAMATION
Managing Water in the West

FINDING OF NO SIGNIFICANT IMPACT

Storage and Return of Westlands Water District's Central Valley Project Water in Semitropic Water Storage District

FONSI-09-157

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U.S. Department of the Interior
Bureau of Reclamation
South-Central California Area Office

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Storage and Return of Westlands Water District's Central Valley Project Water in Semitropic Water Storage District

In accordance with section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969, as amended, the South-Central California Area Office of the U.S. Bureau of Reclamation (Reclamation), has determined that the approval of a water banking project in which Westlands Water District (WWD) will bank up to 50,000 AF of its allocated 2009-10 Central Valley Project (CVP) contract supply prior to March 1, 2010 in Semitropic's facilities for use by WWD at a later date is not a major federal action that would significantly affect the quality of the human environment and an environmental impact statement is not required. This Finding of No Significant Impact is supported by Reclamation's Draft Environmental Assessment (EA) Number EA-09-157, and is hereby incorporated by reference.

Background

WWD has been participating in groundwater banking at Semitropic Water Storage District (Semitropic) since 2005 as allowed under Article 3 (d) of Westlands' interim renewal contract, Contract No. 14-06-200-495A-IR1. WWD has a balance of 14,859 acre-feet (AF) of CVP water at Semitropic from 2005 and 2006 banking.

Reclamation has a contractual relationship with WWD which gives authority for the banking of CVP water and Reclamation's approval to bank water outside of WWD's service area; however, one of the actual Semitropic banking partners and owners of some of the banked water are landowners within WWD.

Poso Creek Water Company, LLC (consisting of landowners within WWD, "Poso Creek") has entered into a long-term banking agreement with Semitropic dated April 23, 2007 in which Poso Creek is a full banking partner invested at 60,000 AF of guaranteed storage capacity in the Semitropic water bank. The term of this agreement runs through December 31, 2035. Reclamation proposes to approve a water banking project in which WWD would bank up to 50,000 AF of its allocated 2009-10 CVP contract supply prior to March 1, 2010 in Semitropic's facilities for use by WWD at a later date. The CVP water to be banked would be in excess of WWD's demands.

WWD would then recover up to 20,000 AF per year of any banked water during ongoing water supply shortages when water supply is insufficient to meet demand. Banking would occur prior to March 1, 2010. Water would be returned within 10 years of the initial potential banking deposits, so any water banked in water year 2009 must be returned by water year 2019, unless Reclamation, WWD and Semitropic can agree to terms for an extension which would require further environmental analysis.

It is anticipated that the delivery of up to 50,000 AF of 2009-10 allocated WWD CVP water would be conveyed to Semitropic during the months of December through February of 2010. Ten percent of the CVP water delivered to Semitropic would be left behind to compensate for aquifer losses as required by Semitropic's Memorandum of Understanding with the surrounding districts. The remaining balance of WWD water delivered would be credited to either the Poso Creek account, or an interim WWD account. Semitropic would use the delivered CVP water, in-lieu of pumping groundwater, for irrigation purposes within Semitropic. WWD would use banked supplies, returned via exchange, for irrigation purposes on established agricultural lands within WWD. WWD could never withdraw more water from the bank than its current banked balance.

The EA/FONSI does not include the buildout or use of the Stored Water Recovery Unit within Semitropic as it is not a part of the Proposed Action.

Reclamation's finding that implementation of the Proposed Action will result in no significant impact to the quality of the human environment is supported by the following findings:

FINDINGS

Surface Water Resources

The Proposed Action will improve WWD's water supply reliability and operational efficiency, especially during future ongoing water supply shortages. The proposed delivery of CVP water to Semitropic and the subsequent banking and return via exchange to WWD will occur through existing State Water Project (SWP), CVP, Semitropic, and WWD facilities. No new facilities will be needed as a result of the Proposed Action. The Proposed Action will not interfere with the normal operations of the SWP or CVP facilities, nor will it impede any SWP or CVP obligations to deliver water to other contractors or to local fish and wildlife habitat. Furthermore, the Proposed Action will not alter the quantity or timing of diversions from the San Joaquin-Sacramento Rivers Delta. Neither WWD nor any CVP or SWP water user will be changing historic land and water management practices as a result of the Proposed Action.

The Proposed Action will result in no major changes to SWP and CVP facilities operations. Therefore, there will be no significant impacts to surface water resources.

Groundwater Resources

Groundwater banking reduces overdraft by utilizing surface supplies in lieu of groundwater pumping. The Proposed Action will provide water to WWD during future ongoing water supply shortages, and therefore reduce the need to pump groundwater in order to supplement potential shortages. WWD will not be pumping groundwater to make the CVP water available for banking. The CVP supply WWD desires to bank is in excess of their immediate needs. The Proposed Action will not adversely affect the groundwater under WWD. In fact, with the availability of up to 20,000 AF of previously banked water supplies available for future water supply shortages, the Proposed Action will likely decrease reliance on groundwater pumping by landowners in WWD during future water supply shortages. The Proposed Action will help protect the local aquifer from overdraft in the interim period and the majority of the 10 percent

loss will be permanently left within the groundwater basin. Therefore, there will be no adverse impacts to groundwater resources.
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Land Use
Neither WWD nor Semitropic are changing historic land or water management practices as a result of the Proposed Action. All water will move through existing facilities and be placed on established agricultural lands. None of the banked water will be used to place any untilled or new lands into production, or to convert undeveloped land to other uses. WWD will not promote additional land to be farmed. Any water that is delivered to WWD as a result of this Proposed Action will be used on established agricultural lands to help offset ongoing water supply shortages faced by WWD and hence, reduce the amount of groundwater pumped or reduce transfers from other sources. Therefore, no significant impacts to land use are expected from the Proposed Action.

Biological Resources
The Proposed Action only addresses use and storage of water that will be made available south of Delta after it has been diverted from natural waterways and placed in man-made distribution systems (canals/reservoirs and groundwater banks). There will be no effect on the listed salmonids, green sturgeon or the delta smelt and their respective critical habitats. This Proposed Action will have no effect on natural stream systems that comprise or contain salmonid critical habitat, nor on any stream systems that comprise the habitat of the green sturgeon. The Proposed Action will not affect the primary constituent elements of delta smelt critical habitat. There will be no effect to this suite of species and their designated critical habitat which have not already been addressed under the Endangered Species Act.

Based on the above effects analysis, Reclamation has determined that the Proposed Action will have no effect on threatened and endangered species or their designated critical habitats and no further consultation is required under Section 7 of the Endangered Species Act.

Cultural Resources
The Proposed Action is administrative in nature and is the type of activity that has no potential to affect historic properties pursuant to the regulations at 36 CFR Part 800.3(a)(1). There will be no modification of water conveyance facilities and no activities that will result in ground disturbance. Because there will be no potential to affect historic properties, no cultural resources will be impacted as a result of implementing Proposed Action. Therefore, there will be no significant impacts from the Proposed Action.

Indian Trust Assets
There are no tribes possessing legal property interests held in trust by the United States in the water involved with this action, nor is there such a property interest in the lands designated to receive the water proposed in this action, therefore Indian trust assets will not be affected by the Proposed Action.

Socioeconomic Resources

The return delivery of CVP water to WWD will provide water to the area in future ongoing water supply shortages and will help sustain existing croplands in WWD. The Proposed Action will continue to support the economic vitality in the region. Semitropic and WWD are responsible for managing water for the benefit of agriculture, since they exist to support growers within their respective districts. Maximizing the use of operational exchanges is beneficial to local economic conditions and agricultural employment. There will be no significant impacts from the Proposed Action.

Environmental Justice

The Proposed Action will allow CVP water to be conveyed through existing facilities to an established water banking facility and then returned to WWD in future water supply shortages. The Proposed Action will not cause dislocation, changes in employment, or increase flood, drought, or disease. The Proposed Action will not disproportionately impact economically disadvantaged or minority populations. No impacts relevant to Environmental Justice are anticipated because the project does not include any construction or development of project facilities, or any change in operations that will affect the general public. Therefore, there will be no significant impacts.

Air Quality

The use of groundwater will require pumps to lift the groundwater to the surface. Electric pumps will be used to recover stored groundwater. These pumps will not emit pollutants at the pump; the source of the pollutants originates at the power plant. Power plants are permitted based on their maximum operating potential. The additional electricity will not result in the power plant exceeding operating capacity, and, thus, the applicable emissions permit. A majority of power is derived from fossil fuel combusted at power plants to generate electricity. CO_2 is the primary pollutant emitted as a result of the oxidation of the carbon in the fuel. NO_x and PM_{10} are also emitted.

In summary, the construction and operation of the Proposed Action will not cause an adverse impact to air quality in the San Joaquin Valley Air Basin or exceed applicable standards. Therefore, there will be no significant impacts to air quality from the Proposed Action.

Climate Change

The Proposed Action does not include any change on the composition of the atmosphere and therefore will have no direct effects on changes in climate.

Water allocations are made dependent on hydrologic conditions and environmental requirements. Since Reclamation operations and allocations are flexible, any changes in hydrologic conditions due to global climate change will be addressed within Reclamation's operation flexibility and therefore water resource changes due to climate change will be the same with or without the Proposed Action.

Cumulative Impacts

The Proposed Action will allow WWD to bank available CVP water for future delivery to meet crop demands during future water supply shortages. No native or previously untilled lands will be put into production. The Proposed Action will maintain existing land uses and will not

contribute to cumulative changes or impacts to land uses or planning, air quality, cultural resources, Indian trust assets, socioeconomic resources, environmental justice, or global climate change. Therefore, there will be no cumulative effects as a result of the Proposed Action.

RECLAMATION

Managing Water in the West

Final Environmental Assessment

Storage and Return of Westlands Water District's Central Valley Project Water in Semitropic Water Storage District

EA-09-157

U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Region
South Central California Area Office
Fresno, California

January 2010

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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List of Acronyms and Abbreviations

AF	acre-foot (feet)
Af/y	acre-feet per year
APE	area of potential effect
Aqueduct	California Aqueduct a State Water Project facility stretching from the Delta to southern California
CAA	Clean Air Act
CFR	Code of Federal Regulations
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
Contract Year	Begins March 1st and ends February 28th of the following year.
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
Delta	Sacramento and San Joaquin River Delta
DWR	Department of Water Resources
EA	Environmental Assessment
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FWCA	Fish and Wildlife Coordination Act
FWS	U .S. Fish and Wildlife Service
FONSI	Finding of No Significant Impact
GHG	green house gases
ITA	Indian Trust Assets
KCWA	Kern County Water Agency
LLC	Limited Liability Company
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NKWSD	North Kern Water Storage District
NO_x	nitrogen oxide
NRHP	National Register of Historic Places
PM_{10}	particulate mater 10 (particles are between 2.5 and 10 micrometers)
Poso Creek LLC	Poso Creek Water Company, LLC
Program	Semitropic Groundwater Banking and Exchange Program
Reclamation	U.S. Bureau of Reclamation
SCVWD	Santa Clara Valley Water District
Semitropic	Semitropic Water Storage District
SIP	State Implementation Plan
SJV	San Joaquin Valley
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLC	San Luis Canal
SLR	San Luis Reservoir
SOD	south of the Delta
State	State of California

Subsidence	Sinking of the ground surface, because of pore collapse, over an aquifer that is slowly being drained by groundwater pumping.
SWP	State Water Project
SWRU	Stored Water Recovery Unit
VOC/ROG	Volatile Organic Compounds/reactive organic gas
WWD	Westlands Water District

Section 1 Purpose and Need for Action

1.1 Background

On April 21, 2009, the Bureau of Reclamation (Reclamation) announced that the Central Valley Project (CVP) allocation would be 10 percent for all agricultural water users south of the Sacramento-San Joaquin Rivers Delta (Delta) (SOD) for Contract Year 2009 (a Contract Year begins March 1st and ends February 28th of the following year). In response to this announcement of reduced water supply, many acres of fields in Westlands Water District (WWD) were fallowed. These actions further reduced the water demand in the post summer time period (a period of normal decreased demand due to seasonal changes). This will potentially result in WWD having more water in the remainder of 2009 Contract Year, despite the dryness of the year and the low allocation, than it needs to meet crop demands. There is also a potential that the winter will be wet which could also result in water supplies above crop demands.

WWD has been participating in groundwater banking at Semitropic Water Storage District (Semitropic) since 2005 as allowed under Article 3 (d) of WWD's interim renewal contract, Contract No. 14-06-200-495A-IR1. WWD has a balance of 14,859 acre-feet (AF) of CVP water at Semitropic from 2005 and 2006 banking. Although environmental documents were developed for a potential banking action, no CVP water was banked in Contract Years 2007 or 2008.

Reclamation has a contractual relationship with WWD which gives authority for the banking of CVP water and Reclamation's approval to bank water outside of WWD's service area; however, one of the actual Semitropic banking partners and owners of some of the banked water are landowners within WWD.

Poso Creek Water Company, Limited Liability Companiess (LLC) [consisting of landowners within WWD] entered into a long-term banking agreement with Semitropic dated April 23, 2007 in which Poso Creek, LLC is a full banking partner invested at 60,000 AF of guaranteed storage capacity in the Semitropic water bank. The term of this agreement runs through December 31, 2035.

1.2 Purpose and Need

WWD desires to maximize the beneficial use of its current CVP allocation by storing supplies that may become excess to its demand. Being prepared to bank excess supplies, should conditions arise to encourage banking, is critical in order to maximize the beneficial use of WWD CVP supplies and improve their water supply reliability.

WWD would like to bank water excess to their demands for future years so that the water needs in future water supply shortages could be offset by banked supplies.

1.3 Scope

This environmental analysis (EA) has been prepared to examine the impacts on environmental resources as a result of banking of up to 50,000 AF of 2009-10 WWD allocated CVP water supply prior to March 1, 2010. See figures 1-1 and 1-2 location maps.

The Proposed Action area to be analyzed is the area encompassed by WWD and Semitropic, as well as State of California (State) and Federal facilities that would be used in order to implement the Proposed Action. The potential annual banking deposit would take place in water year 2009 and the water would be returned within 10 years of the initial deposit. The EA will, therefore, evaluate the effect of the water being banked and not available to WWD during water year 2009, and its return, when needed, during water supply shortages within 10 years of any deposits ending in 2019.

The scope of this EA evaluates the effects of the Proposed Action utilizing facilities within Semitropic that are already constructed and in use. The extraction would use existing conveyance and extraction facilities

This EA does not analyze the buildout or use of the Stored Water Recovery Unit (SWRU) within Semitropic as it is not a part of the Proposed Action.

1.4 Authorities for the Proposed Actions

- Title XXXIV Central Valley Improvement Act (CVPIA) October 30, 1992, Section 3405 (a)
- Reclamation Reform Act (RRA), October 12, 1982, Section 226
- Interim Renewal Water Service Contracts for San Luis Unit
- Reclamation's Interim Guidelines for Implementation of Water Transfers Under Title XXXIV of Public Law 102-575 (Water Transfer) February 25, 1993
- Reclamation and United States Fish and Wildlife Service (FWS) Region 1, Final Administrative Proposal on Water Transfers April 16, 1998
- Reclamation's Regional Letter, Delegation of Regional Functional Responsibilities regarding Water Transfers from the Regional Director to the Area Offices, Number 08-01 March 17, 2008

1.5 Related Environmental Documents

- *Storage of Central Valley Project Water from Westland Water District in Semitropic Water Storage District EA/Finding of No Significant Impact (FONSI)-05-96;* November 2005. This EA/FONSI evaluated the impacts on environmental resources as a result of the banking of up to 25,000 AF CVP water to Semitropic banking facilities for the 2005-2006 water year.
- *Poso Creek Water Company, LLC Execution of Temporary Water Service Contract and Banking of Section 215 Water at Semitropic Water Storage District, EA/FONSI-6-67;* May 2006. This EA/FONSI evaluated the impacts on environmental resources as a result

of executing and implementing a one-year temporary water service contract pursuant to Section 215 of the RRA with the Poso Creek Water Company, LLC during the 2006 Contract Year for up to 15,000 AF of water. No Section 215 flood flows analyzed in the document were delivered for banking in Semitropic in 2006.

- *Storage and Exchange of Central Valley Project Water Westlands Water District to Semitropic Water Storage District, EA/FONSI-EA-06-78*; September 2006. This EA/FONSI evaluated the impacts on environmental resources as a result of a one-time water banking project in which WWD would bank up to 50,000 AF of their 2006 allocated CVP contract supply in Semitropic's facilities for use by WWD at a later date. The CVP water banked would be in excess of WWD immediate demands. WWD would then recover up to 20,000 AF per year (AF/y) of the banked water during water supply shortages when water supply was insufficient to meet demand.
- *Madera Irrigation District Transfer of Friant Central Valley Project Water to Semitropic Water Storage District as Facilitated by North Kern Water Storage District, EA/FONSI-06-130;* December 2006. This EA/FONSI evaluated the impacts on environmental resources as a result of approving a transfer of up to 15,000 AF of CVP water from Madera Irrigation District delivered in 2006 to Semitropic facilitated by North Kern Water Storage District (NKWSD). The water was to be delivered to Semitropic using existing NKWSD spreading facilities for recharge or the Poso Creek channel for direct delivery and recharge into Semitropic.
- *Madera Irrigation District Transfer, Banking and Exchange of Friant Central Valley Project water to Westlands Water District as Facilitated by North Kern Water Storage District and Kern County Water Agency, EA-06-129/Madera Irrigation District Transfer, Banking and Exchange of Friant CVP Water to Westlands Water District (Up to 25,000 Acre Feet), FONSI-07-01-MP;* January 2007. The project allows WWD to purchase 25,000 AF of Madera Irrigation District's CVP (Friant) water to be delivered to NKWSD and Semitropic for future exchange to WWD when it is needed.
- *Transfer of Stored Water from Westlands Water District to Semitropic Water Storage District, EA/FONSI-08-10-MP*; October 2008. Reclamation approved the transfer of up to 8,086 AF of previously stored water from WWD to Semitropic prior to January 26, 2012.

1.6 Potential Issues

The potentially affected resources in the project vicinity include:

- Surface Water Resources
- Groundwater Resources
- Land Use
- Biological Resources
- Cultural Resources
- Indian Trusts Assets
- Socioeconomic Resources
- Environmental Justice
- Global Climate Change
- Air Quality
- Cumulative Impacts

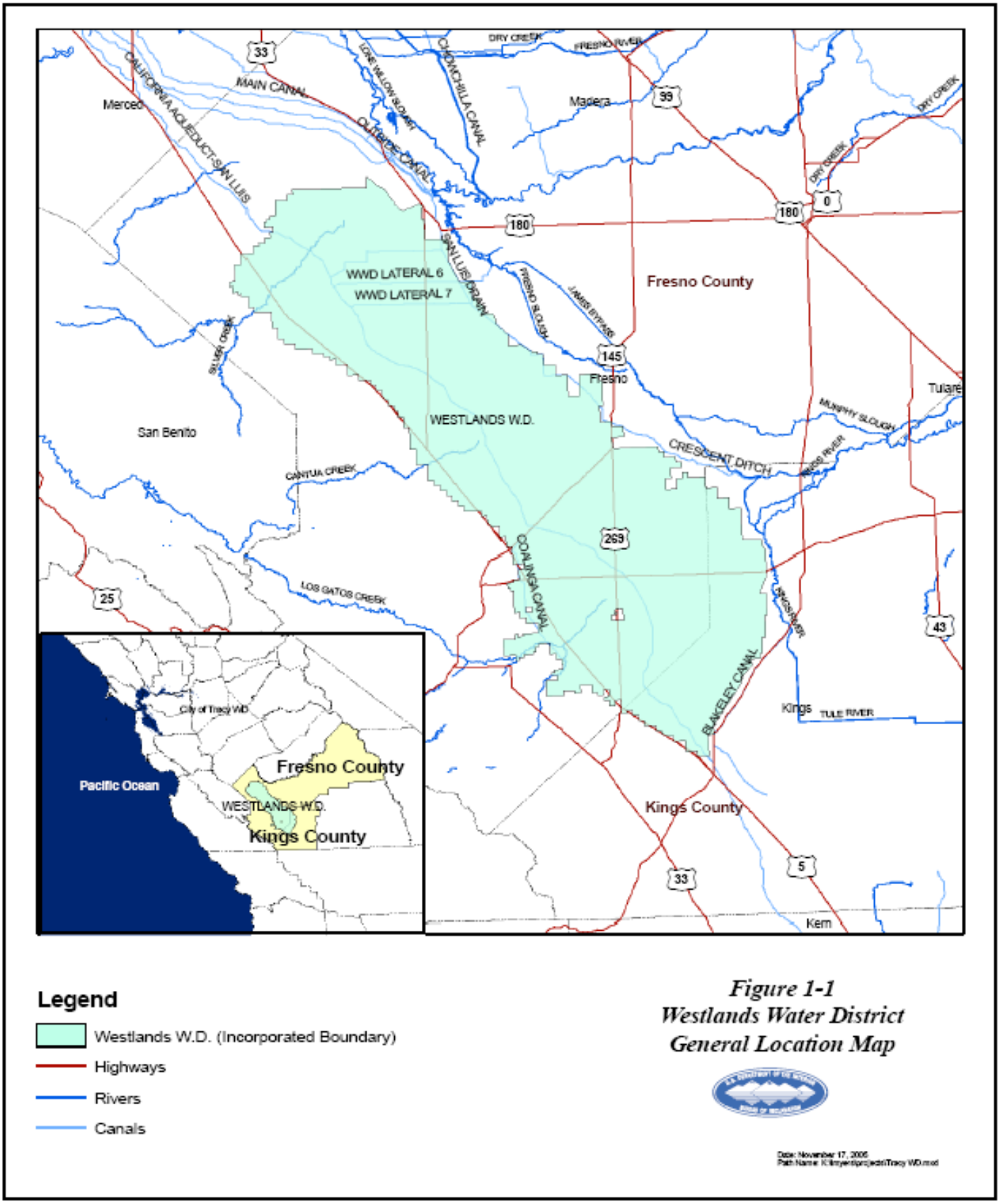

Figure 1-1 Westlands Water District Location Map

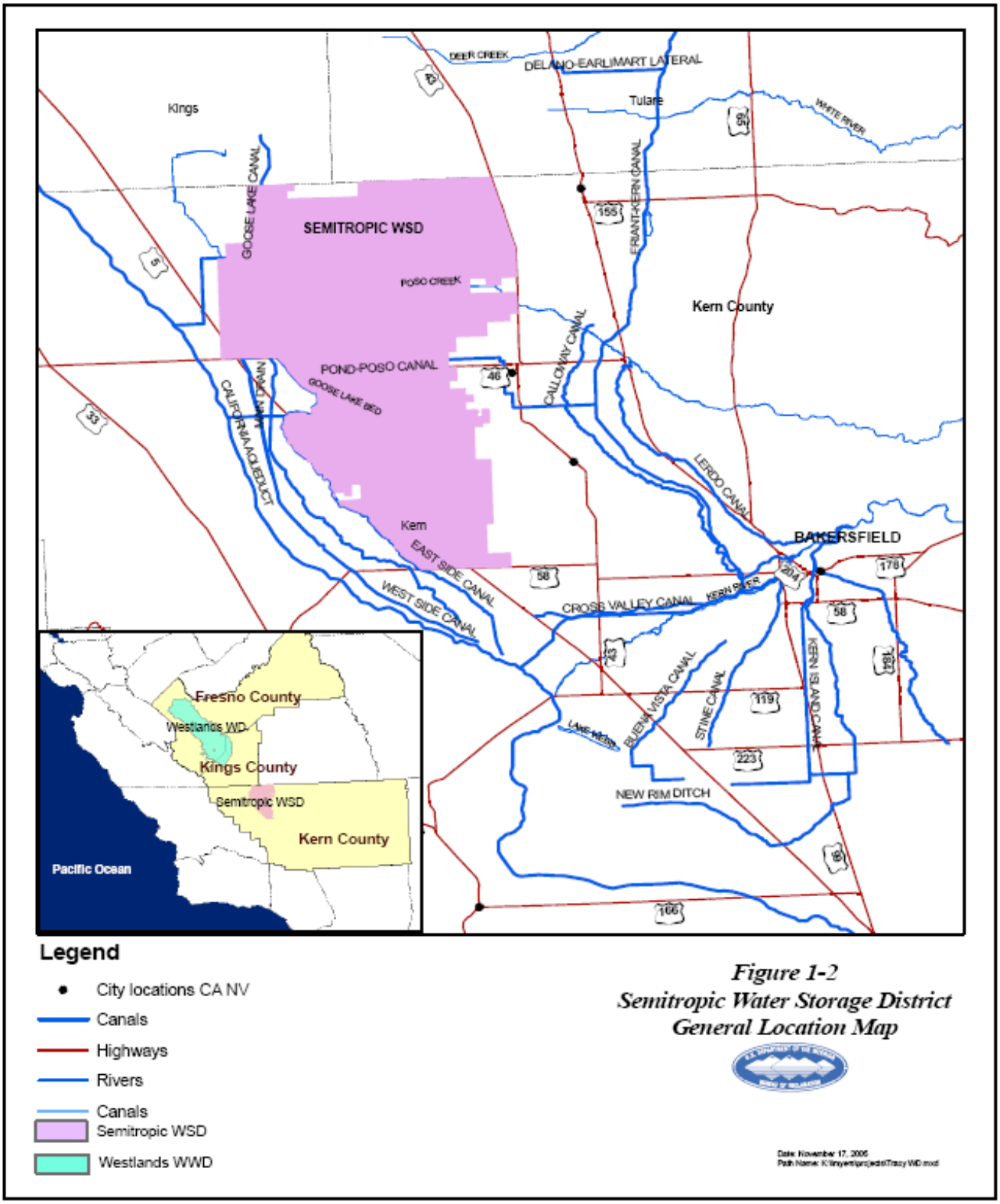

Figure 1-2 Semitropic Water Storage District General Location Map (the Proposed Action would not include the Stored Water Recovery Unit)

Section 2 Alternatives Including the Proposed Action

This EA considers two alternatives: the No Action Alternative and the Proposed Action Alternative. The No Action Alternative would mean the Proposed Action would not take place, and the resulting environmental effects from taking the No Action is compared with the effects of permitting the Proposed Action to go forward.

2.1 Alternative A: No Action

Under the No Action Alternative, Reclamation would not approve the banking and exchange of up to 50,000 AF of WWD's allocated 2009-10 CVP water. Since this water would be in excess of WWD's water supply needs, if the Proposed Action was disapproved, the annual water supply proposed for banking could be rescheduled into the upcoming contract year within the Federal share of San Luis Reservoir (SLR) with Reclamation approval, if space is available. However, water rescheduled within the Federal share of SLR in any given year could be at risk of loss in accordance with Reclamation's rescheduling guidelines and policies. WWD would have less water available south of Delta (SOD) during future water supply shortages.

2.2 Alternative B: Proposed Action

Reclamation proposes to approve a water banking project in which WWD would bank up to 50,000 AF of its allocated 2009-10 CVP contract supply prior to March 1, 2010 in Semitropic's facilities for use by WWD at a later date. The CVP water to be banked would be in excess of WWD's demands. Given the limited delivery demand with about 250,000 acres in the district fallowed, a wetter winter could quickly generate water. The 50,000 AF is less than 5 percent of WWD's entitlement.

WWD would then recover up to 20,000 AF/y of any banked water during water supply shortages when water supply is insufficient to meet demand. Water would be returned within 10 years of the initial potential banking deposits, so any water banked in water year 2009 must be returned by water year 2019, unless Reclamation, WWD and Semitropic can agree to terms for an extension which would require further environmental analysis.

It is anticipated that the delivery of up to 50,000 AF of 2009-10 allocated WWD CVP water would be conveyed to Semitropic prior to March 2010. Ten percent of the CVP water delivered to Semitropic would be left behind to compensate for aquifer losses as required by Semitropic's Memorandum of Understanding with the surrounding districts. The remaining balance of WWD water delivered would be credited to either the Poso Creek, LLC account, or an interim WWD account. Semitropic would use the delivered CVP water, in-lieu of pumping groundwater, for irrigation purposes within Semitropic. WWD would use banked supplies, returned via exchange, for irrigation purposes on established agricultural lands within WWD. WWD could never withdraw more water from the bank than its current banked balance.

It is also anticipated that a groundwater banking agreement between WWD and Semitropic will be entered into for a period of 10 years, concluding in 2019, or until all of the banked CVP water has been returned, whichever is sooner. Poso Creek, LLC and WWD propose to work together to bank up to 50,000 AF of WWD 2009-10 allocated CVP water supply prior to March 1, 2010.

The potential delivery and banking of up to 50,000 AF of 2009-10 allocated WWD CVP supply would only occur if there were excess conditions for WWD water. This might occur in the remainder of 2009-10 given the changes in cropping and water delivery patterns associated with the 10 percent allocation, and the potential for wet conditions during the winter of 2009-10.

According to the agreement with Semitropic, WWD will be a Lower Priority Banking Partner and can bank water only when Semitropic has capacity. As previously mentioned, Poso Creek, LLC has entered into a long term agreement in which Poso Creek, LLC is a full banking partner invested at 60,000 AF of guaranteed storage capacity in the Semitropic water bank (with a remaining net banked amount of 14,859 AF of CVP water on account from prior banking actions). Poso Creek, LLC has this reserved storage space, but WWD, in accordance with their present agreement, does not yet have reserved storage space in the bank and is limited to banking only the quantity Semitropic can accommodate at that time. Hence, Poso Creek, LLC and WWD may not be able to bank the entire desired amount if Semitropic does not have capacity.

The Proposed Action is subject to the following conditions:

1) The water to be temporarily diverted and stored would only be used for agricultural purposes, within the boundaries of Semitropic and WWD as described;

2) The water would only be used for beneficial purposes and in accordance with Federal Reclamation law and guidelines;

3) The water would not be used to place untilled or new lands into production, nor to convert undeveloped land to other uses (the water would not be used to convert land from existing to other uses, without further environmental review);

4) The Proposed Action would not affect CVP or State Water Project (SWP) operations; all supplies would be previously scheduled for delivery points SOD, and would not require additional Delta exports;

5) The movement of the water would not require the construction of any new water diversion or conveyance facilities.

6) Only existing facilities (the stored water recovery unit would be used) in Semitropic would be utilized for banking or extraction. No new construction would occur to effectuate the Proposed Action.

Required Conveyance

Conveyance of CVP water to Semitropic and the return via an exchange is described below.

Delivery of CVP Water to Semitropic

The delivery of up to 50,000 AF of allocated 2009-10 WWD CVP water would be released from the federal share of SLR through February; immediately exchanged with the California Department of Water Resources (DWR) at O'Neill Forebay to be conveyed through the San Luis Canal (SLC) and California Aqueduct (Aqueduct); and ultimately delivered to Semitropic's turnouts at Reach 10A, and/or Kern County Water Agency (KCWA) turnouts where Semitropic has rights to deliver water to the Kern Water Bank (Reach 12E). Semitropic is a subcontractor of KCWA. Semitropic would take control of the water, subtract 10 percent for aquifer losses, credit the appropriate Poso Creek, LLC or WWD account for the balance and directly apply the water on district lands to meet agricultural demands in-lieu of pumping groundwater.

Recovery and Exchange of Banked CVP Water from Semitropic

According to its long-term agreement, Poso Creek, LLC would recover up to 20,000 AF of water per year during future CVP SOD agricultural water shortages for return to WWD. As a Lower Priority Banking Partner, WWD would have the ability to extract and return water only when available capacity exists at Semitropic. The available capacity would represent any capacity not fully utilized by the (share-holding) Banking Partners at Semitropic. The capacity would be both extraction capacity (groundwater well extraction) and Semitropic canals to convey the water back to the California Aqueduct. Delivery of the return water would be at the discretion of WWD and subject to concurrence from Semitropic, KCWA, DWR and Reclamation. WWD does not have the necessary facilities to take direct delivery of the banked water; therefore, the return of the banked groundwater would occur via an exchange. This exchange may be accomplished under three possible scenarios:

- WWD could exchange the requested amount of banked water for an equal amount of Semitropic's allocation of KCWA SWP water. Semitropic's KCWA SWP water would be released from the SLR and delivered to WWD via their turnouts at Reaches 4-7 of the joint-use SLC portion of the Aqueduct. An equal amount would be deducted from the Poso Creek, LLC and/or WWD water bank account at Semitropic.

- WWD could exchange the requested amount of banked water for an equal amount of CVP water. Semitropic's KCWA SWP water would be made available at the SLR where it could be exchanged for CVP water from another CVP contractor and delivered to WWD as they would normally receive their CVP supply. An equal amount of water would be deducted from the Poso Creek, LLC and/or WWD water bank account at Semitropic. Or, if the CVP contractor involved in the exchange is also a Semitropic Banking Partner, such as Santa Clara Valley Water District (SCVWD), then the requested amount of the banked asset could be transferred to the SCVWD account in exchange for SCVWD delivering a like amount of their CVP water supply to WWD. CVP water would be delivered to WWD as they would normally receive their CVP supply. An equal amount of water would be deducted from the Poso Creek, LLC and/or WWD water bank account and credited to SCVWD's water bank account.

- Semitropic could pump groundwater stored on behalf of WWD into the Aqueduct. DWR would use that water to meet deliveries to SWP contractors downstream, thereby freeing up SWP water for delivery to WWD. Water would be delivered to WWD via their turnouts at Reaches 4-7 of the joint-use SLC portion of the Aqueduct. An equal amount

would be deducted from the Poso Creek, LLC and/or WWD water bank account at Semitropic.

- Water quality would not adversely affect SWP water.

Section 3 Affected Environment and Environmental Consequences

3.1 Surface Water Resources

3.1.1 Affected Environment

CVP and SWP Joint-Use Facilities

The SLC, a part of the CVP and also part of the SWP, was authorized in 1960. Reclamation and the State constructed and operate this unit jointly. Some features are "joint-use facilities" of the Federal Government and the State. The principal purpose of the Federal portion of the facilities is to furnish approximately 1.25 million AF of water as a supplemental irrigation supply to some 600,000 acres located in the western portion of Fresno, Kings, and Merced Counties.

The joint-use facilities are O'Neill Dam and Forebay, B.F. Sisk San Luis Dam, SLR, William R. Gianelli Pumping-Generating Plant, Dos Amigos Pumping Plant, Los Banos and Little Panoche Reservoirs, and SLC from O'Neill Forebay to Kettleman City, together with the necessary switchyard facilities. The Federal-only portion of the SLU includes the O'Neill Pumping Plant and Intake Canal, Coalinga Canal, Pleasant Valley Pumping Plant, and the San Luis Drain.

SLR serves as the major storage reservoir and O'Neill Forebay acts as an equalizing basin for the upper stage dual-purpose pumping-generating plant. Pumps located at the base of O'Neill Dam take water from the Delta-Mendota Canal (DMC) through an intake channel (a Federal feature) and discharge it into the O'Neill Forebay. The Aqueduct flows directly into O'Neill Forebay. The pumping-generating units lift the water from the O'Neill Forebay and discharge it into the main reservoir. When not pumping, these units generate electric power by reversing flow through the turbines. Water for irrigation is released into the SLC and flows by gravity to Dos Amigos Pumping Plant where it is lifted more than 100 feet to permit gravity flow to its terminus at Kettleman City. A State canal system continues to southern coastal areas. During irrigation months, water from the Aqueduct flows through the O'Neill Forebay into the SLC instead of being pumped into the SLR. Two detention reservoirs, Los Banos and Little Panoche, control cross drainage along the SLC. The reservoirs also provide recreation and flood control benefits (Reclamation 2009).

Both the SWP and CVP are operated pursuant to a complex set of environmental and other operational requirements. Delta export operations are subject to Delta water quality standards set by the State Water Resources Control Board, various Biological Opinions under the Endangered Species Act (ESA), provisions of the Coordinated Operations Agreement, and various other criteria, plans and agreements.

Westlands Water District

WWD encompasses more than 600,000 acres of farmland located in western Fresno and Kings Counties and serves approximately 600 family-owned farms that average 900 acres in size. WWD is a long-term CVP contractor with a contract for 1,150,000 AF (Reclamation 2005).

CVP water that is delivered to WWD is pumped from the Delta. It is delivered 70 miles through the DMC to SLR. During the spring and summer, the water is released from SLR and delivered to WWD farmers through the SLC and the Coalinga Canal. Once it leaves the Federal project canals, water is delivered to farmers through 1,034 miles of underground pipe and over 3,300 metered delivery outlets (WWD 2006).

Semitropic Water Storage District

Semitropic is located in north-central Kern County in the San Joaquin Valley (SJV), about 20 miles northwest of the City of Bakersfield. The total area of Semitropic is 220,000 acres with about 159,000 acres irrigated. Semitropic was organized in 1958 for the purpose of supplying supplemental water within its service area boundaries (Semitropic 2006a).

Surface water in Semitropic consists of local surface water supplies and water provided under its contract with the KCWA for 133,000 AF of SWP water per year. The SWP water is pumped from the Delta and conveyed through the Aqueduct. The SWP water can be stored in SLR for subsequent conveyance in the Aqueduct to Semitropic (Semitropic 1997).

Poso Creek, LLC

Poso Creek, LLC is a mutual water company that filed its articles of incorporation on October 4, 2005. Poso Creek, LLC was formed to manage water assets in order to sustain farmland assets (to ensure water supplies for farmland).

Poso Creek, LLC is not a water district and is not a SWP or CVP contractor. Rather, Poso Creek, LLC was formed to facilitate the purchase and delivery of surplus SWP and CVP supplies to its members' farming operations as WWD water users.

WWD has worked with Poso Creek, LLC to develop and enter into a long term agreement in which Poso Creek, LLC is a full banking partner invested at 60,000 AF of guaranteed storage capacity in the Semitropic water bank. Poso Creek, LLC, as facilitated by cooperation with WWD, has banked a net balance of CVP water stored within Semitropic of 14,859 AF. This CVP water was banked during 2005-2007 under three separate actions.

The first action started in fall 2005 with a net of 10,156 AF banked. Under a WWD request letter dated April 20, 2007 and a Reclamation approval letter dated June 11, 2007, 4,000 AF of this supply was returned to WWD in the fall of 2007. Under a WWD request letter dated March 17, 2009 and a Reclamation approval letter dated April 7, 2009, 650 AF of this supply was returned to WWD in July and August 2008. Under a WWD request letter dated March 17, 2009, and a Reclamation approval letter date April 7, 2009, 5,506 AF of this supply was returned to WWD in May of 2009. The remaining net AF of CVP water stored under the 2005 banking project was zero.

In the second action, Poso Creek, LLC, as facilitated by cooperation with WWD, banked 7,980 AF of CVP water in the winter of 2007 (February). Under a WWD request letter dated March 17, 2009 and a Reclamation approval letter dated April 7, 2009, 557 AF of this supply was returned to WWD in May of 2009. The remaining net AF of CVP water stored under this 2006 banking project was 7,423 AF.

Finally, Poso Creek, LLC, as facilitated by cooperation with WWD, also banked a net of 7,436 AF of CVP water in the winter of 2007. Poso Creek, LLC, as facilitated by cooperation with WWD, has a total net balance of CVP water stored within Semitropic of 14,859AF (7,423AF + 7,436AF).

The table below shows the WWD banking activities within Semitropic.

Table 3-1 WWD Banking in Semitropic (in AF)

Month	2005	2006	2007	2008	2009
January	-	-	-	-	-
February	-	-	15,416	-	-
March	-	-	-	-	-
April	-	-	-	-	-
May	-	-	-	-	(6,063)
June	-	-	-	-	-
July	-	-	-	(350)	-
August	-	-	-	(300)	-
September	-	-	-	-	-
October	-	-	(4,000)	-	-
November	9,646	-	-	-	-
December	510	-	-	-	-
Total	10,156	0	11,416	(650)	(6,063)

Remaining CVP Balance: 14,859 AF

Note: 1) These amounts are after the 10 percent losses are deducted and reflect creditable deposits that may be withdrawn.

2) The Contract Year runs from March 1 until February 28/29 so even though there were deposits in February 2007, it is considered banked in Contract Year 2006.
3) Parentheses means a withdrawal from the bank while no parentheses means a deposit.

Water Quality

Water quality in the Aqueduct is affected by the tidal influences of the Delta and has increased salinity compared to the SJV eastside rivers. Table 3-2 is an example of Aqueduct water quality in the summer.

Semitropic's own SWP contract is for water from the Aqueduct so the quality of the water banked will be the same as that normally utilized by Semitropic. WWD's banked water would be utilized to irrigate crops leaving the native groundwater as the banked supply so groundwater quality should not be affected.

Table 3-2 July's Average Aqueduct Water Quality

Water Quality Parameter	Harvey O Banks Pumping Plant (at the Delta)	Check 29 South of WWD
Electrical Conductivity (Micromhos per centimeter) (measure of salinity)	336	423
Bromide (mg/L)	0.12	0.18
Turbidity (NTU)	11	2
Dissolved Organic Carbon (mg/L)	3.7	Data not available

(DWR website 2008 SWP Water Quality Summary 7/9 to 8/7/08)

3.1.2 Environmental Consequences

3.1.2.1 No Action

Under the No Action Alternative, surface water supplies would be the same as the existing conditions described above.

3.1.2.2 Proposed Action

WWD would bank up to 50,000 AF of their allocated 2009-10 CVP water supply prior to March 1, 2010. WWD would not overburden other water resources to make this water available for banking. Water to be banked is water that would have been used this year within WWD, but due to the need to fallow lands and the potential wet winter, water may become available for banking.

The Proposed Action would improve WWD's water supply reliability and operational efficiency, especially during future water supply shortages. The proposed delivery of CVP water to Semitropic and the subsequent banking and return via exchange to WWD would occur through existing SWP, CVP, Semitropic, and WWD facilities. No new facilities would be needed as a result of the Proposed Action. The Proposed Action would not interfere with the normal operations of the SWP or CVP facilities, nor would it impede any SWP or CVP obligations to

deliver water to other contractors or to local fish and wildlife habitat. Furthermore, the Proposed Action would not alter the quantity or timing of diversions from the Delta. Neither WWD nor any CVP or SWP water user would be changing historic land and water management practices as a result of the Proposed Action. CVP operations and facilities would not vary considerably under either alternative.

The 1994 Semitropic Groundwater Banking Project Environmental Impact Report (EIR) evaluated potential impacts of the Banking Program operations on the timing of diversions from the Delta. The studies conducted under the EIR process determined that the timing of these diversions are regulated through operational restrictions under a number of agreements and biological opinions designed to protect sensitive fish species and on this basis, Semitropic operations would not considerably impact the timing of diversions from the Delta (Semitropic 1994). The Proposed Action would be regulated by the same operational restrictions.

The Proposed Action would result in no major changes to SWP and CVP facilities operations. Therefore, there would be no adverse impacts to surface water resources.

3.2 Groundwater Resources

3.2.1 Affected Environment

WWD and Poso Creek, LLC

WWD is located above the alluvial fan deposits between the eastward dipping marine deposits of the Coast Range and the alluvium-filled SJV. The groundwater basin underlying WWD is comprised generally of two water-bearing zones: (1) an upper zone above a nearly impervious Corcoran Clay layer containing the Coastal and Sierran aquifers and (2) a lower zone below the Corcoran Clay containing the sub-Corcoran aquifer. These water-bearing zones are recharged by subsurface inflow primarily from the west and northeast, percolation of groundwater, and imported and local surface water. The Corcoran Clay layer separates the upper and lower water-bearing zones in the majority of WWD. The Corcoran Clay layer is not continuous in the western portion of WWD (DWR 2003).

Groundwater pumping started in this portion of the SJ V in the early 1900's. Prior to delivery of CVP water, the annual groundwater pumping in WWD ranged from 800,000 to 1,000,000 AF/y during the period of 1950-1968. The majority of this pumping was from the aquifer below the Corcoran Clay layer, causing the sub-Corcoran piezometric groundwater surface to reach the lowest recorded average elevation of more than 150 feet below mean sea level by 1968. The large quantity of groundwater pumped prior to delivery of CVP water caused a significant amount of land subsidence in some areas. Subsidence permanently reduces the aquifer capacity because of the compaction of the water-bearing sediments. After implementation of the CVP operations in WWD, groundwater pumping declined to about 200,000 AF/y, or less, in the 1970's. The reduction in groundwater pumping stabilized groundwater depths and in most portions of WWD, groundwater levels significantly recovered. WWD has implemented a groundwater management program to reduce the potential for future extreme subsidence.

During the early 1990's, groundwater pumping increased tremendously because of the reduced CVP water supplies caused by an extended drought, and regulatory actions related to the CVPIA,

ESA, and Delta water quality actions. Groundwater pumping quantities are estimated to have reached 600,000 AF/y during 1991 and 1992 when WWD received only 25 percent of its contractual entitlement of CVP water. The increase in pumping caused a decline in groundwater levels, but has since recovered. Normal or near normal CVP water supplies from 1995 to1999 have reduced the estimated annual quantity of groundwater pumped to approximately 60,000 AF/y, resulting in an increase in water surface elevations. However, since 2000, WWD's water supply has been considerably reduced resulting in groundwater pumping increase to over 200,000 AF/y.

WWD estimates the current safe yield of groundwater to be approximately 175,000-200,000 AF/y. However, this quantity of groundwater is generally only pumped when other supplemental supplies are not available. This is due to the poorer quality of the groundwater compared to surface water (Reclamation 2004).

Semitropic Groundwater Banking and Exchange Program

During the 1960's, Semitropic developed plans for main conveyance and distribution system facilities to extend from the Aqueduct to farm delivery locations. Prior to SWP deliveries from the Aqueduct, the irrigated agriculture within Semitropic was totally dependent on pumping the underlying groundwater.

In 1995, Semitropic began implementation of the Semitropic Groundwater Banking and Exchange Program (Program). The Program is a long-term water storage program designed to recharge groundwater and reduce overdraft, increase operational reliability and flexibility, and optimize the distribution and use of available water resources between Semitropic and potential banking partners. Under the Program, the banking partner would deliver a portion of its excess SWP, CVP or other surface water supplies to Semitropic during periods when such water is available. Semitropic may use this water in lieu of pumping groundwater for irrigation or directly recharge the underlying groundwater basin. Upon request, Semitropic would return the banking partner's previously stored water by exchange. The banking partner's stored water may be pumped from Semitropic's groundwater basin through pump-back facilities into the Aqueduct and provided to DWR in exchange for SWP water delivered to the partners from the Delta; or Semitropic would retain the stored water for its own use in exchange for an equivalent portion of its SWP water supply. The water would be the same or better water quality as that exchanged. Under the first method (delivery of recovered banked water to the Aqueduct), the water is delivered to the SWP water supply pool from which deliveries would be made by DWR to the banking partners (Semitropic 1997).

The Program capacity is 1,000,000 AF. Total Program annual withdrawal amounts are restricted by the size of the pump-back facility, simultaneous scheduled SWP deliveries to the groundwater bank, and the proportion of the total Program capacity that has been contracted to other banking partners. The annual withdrawal capacity includes up to 133,000 AF of SWP water that could be exchanged within the Aqueduct, and/or an additional 90,000 AF/y of groundwater extraction to the Aqueduct. Thus, the return capacity of the original program is a minimum of 90,000 AF/y, and a maximum of 223,000 AF/y (Semitropic 1997).

Semitropic has been in progress of constructing the second phase of its groundwater banking program. This new unit, the SWRU, would increase storage by 650,000 AF for a maximum of

1.65 million AF and increase recovery capacity by 200,000 AF/y for a total guaranteed or pump-back capacity of 290,000 AF/y. This means that the Semitropic Groundwater Storage Bank, including its entitlement exchange capability of up to 133,000 AF/y, would be able to deliver up to 423,000 AF/y of dry year yield to the Aqueduct (Semitropic 2006b). However, concern has developed over the environmental effects of this project and construction has been halted until the environmental issues are resolved.

Semitropic Groundwater Management

Semitropic resides within the Kern County groundwater sub-basin of the SJV groundwater basin. The Kern County groundwater sub-basin includes the Kern River and the Poso Creek drainage areas, as well as the drainage areas of westside streams in Kern County. The Kern County sub-basin has been identified by DWR as being critically over drafted. By definition, "a basin is subject to critical conditions of overdraft when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts" (DWR 2003).

As discussed above, one such effect of long-term groundwater overdraft is land subsidence, which has already caused some damage to canals, utilities, pipelines, and roads in the region. Another effect of long-term groundwater overdraft is groundwater quality degradation. Groundwater overdraft in a basin can produce a gradient that induces movement of water from adjacent areas. If the adjacent areas contain poor quality water, degradation can occur in the basin by its movement into lower gradient areas.

Semitropic established a groundwater monitoring program in 1994 so that any adverse groundwater impacts of the Semitropic water banking project could be mitigated. The monitoring program is overseen by a committee made up of Semitropic, adjoining districts (including Buena Vista Water Storage District, Rosedale-Rio Bravo Water Storage District, Shafter-Wasco Irrigation District, NKWSD, and Southern San Joaquin Municipal Utility District), and banking participants. KCWA and DWR are interested parties and participate in committee activities and water scheduling. Monitoring has included water level measurement in monitoring wells and groundwater quality (including salinity and nitrate) evaluations (Semitropic 1994). Table 3-3 provides groundwater quality data based on samples collected during a five week 20,000 AF pump back into the Aqueduct at 300 cubic feet per second between November 5, 2001 and December 12, 2001.

Table 3-3 Groundwater Quality beneath Semitropic

Constituent	Concentration
Total Dissolved Solids (mg/L)	398
Arsenic (ug/L)	8
Chrome VI (ug/L)	6
Bromide (ug/L)	209
Nitrate (mg/L as NO3)	5
Sulfate (mg/L)	84
Total Organic Carbon (mg/L)	2
Uranium (pCi/L)	2

Groundwater In addition, activities of Semitropic and the adjoining activities that affect groundwater conditions are compiled by the committee. Included are diversions of surface water into each district, crop surveys and estimates of crop consumptive use, and, where available, groundwater pumping data. A report on the committee's activity and groundwater conditions is published every two years.

Water Quality The groundwater quality in the Kern County basin has been influenced by the influx of SWP water supplies and banked water. Groundwater was compared with health-based thresholds established by the U.S. Environmental Protection Agency and the California Department of Public Health. Most detections of organic constituents sampled were below health-based thresholds. Most detections of trace elements, nutrients, and radioactive constituents were below health-based thresholds. Based on sampling of wells in the subbasin area, constituents detected above health-based thresholds include: arsenic, nitrate, vanadium, and radon-222. Specific conductance, pH, total dissolved solids, chloride, manganese, and sulfate were detected at concentrations above thresholds set for aesthetic concerns (Shelton et Al. 2006).

3.2.2 Environmental Consequences

3.2.2.1 No Action

Under the No Action Alternative, Reclamation would not approve the banking and exchange of WWD's allocated 2009-10 CVP water. The annual water supply proposed for banking could be rescheduled into the upcoming Contract Year within the Federal share of SLR with Reclamation approval, if space is available. However, rescheduled water could be at risk of loss potentially leading to impacts to groundwater resources as compared to the baseline, as this could lead to additional groundwater pumping. The overdraft in the SJV groundwater basin could result in continuing decline of groundwater levels.

3.2.2.2 Proposed Action

Groundwater banking reduces overdraft by utilizing surface supplies in lieu of groundwater pumping. The Proposed Action would provide water to WWD during future water supply shortages, and therefore reduce the need to pump groundwater in order to supplement potential shortages. WWD would not be pumping groundwater to make the CVP water available for banking. The CVP supply WWD desires to bank is in excess of their immediate needs due to land left out of production in 2009, and the potential for wet conditions in January and February 2010 that could reduce surface water deliveries. The Proposed Action would not adversely affect the groundwater under WWD. In fact, with the availability of up to 20,000 AF of previously banked water supplies available for future water supply shortages, the Proposed Action would likely decrease reliance on groundwater pumping by landowners in WWD during future water supply shortages. The Proposed Action would help protect the local aquifer from overdraft in the interim period and the majority of the 10 percent loss would be permanently left within the groundwater basin.

Therefore, there would be no adverse impacts to groundwater resources.

3.3 Land Use

3.3.1 Affected Environment

Westlands Water District

Agricultural production is the predominant land use in WWD. More than 60 different crops are grown commercially in WWD with the potential for more. The primary crops grown include tomatoes, garlic, almonds, melons, lettuce, grains, and safflower. In order to maintain economic viability, many farming operations shifted to permanent crops in response to water supply reductions that occurred in the early 1990s with drought and regulatory reductions. The resulting increases to average water costs began the necessity for a significant shift in cropping patterns in WWD, with more land being planted in permanent crops. The acreage trend is toward vegetable and permanent crops such as fruit and nut trees, as cotton and grain acreage have decreased. Since 1993, the number of acres planted in trees and vines has more than doubled in WWD while the number of acres planted in cotton has declined.

Given foreseeable low CVP allocations, it will not be uncommon for WWD to fallow 100,000-150,000 acres (some completely fallowed and some not double cropped where only winter crops are planned). In addition, drainage issues have caused 100,000 acres to be retired in the last few years.

Poso Creek LLC

Within WWD, Poso Creek, LLC's members manage and farm approximately 6,700 acres, consisting of approximately 5,700 acres of permanent plantings (almonds and pistachios) and about 1,000 acres of row crops. See Table 3-4 for land ownership and acreage.

Table 3-4 Poso Creek Water Company, LLC Ownership and Acreage

Owner	Total Acres
Manning Ave. Pistachios, LLC	298.91
Kamm Pistachios, LLC	718.13
104 Pistachios, LLC	792.42
Henry Farms (Todd & Linda Henry)	544.30
Gary & Karen Robinson	320.00
Kristine Robinson	361.05
Derrick Pistachios, LLC	600.00
Three Rocks Pistachios, LLC	350.00
Panoche Pistachios, LLC The Johnson Family Trust	967.80
Erick Johnson & Diane Sharp Trustees (Johnson Family Trust)	627.02
Erick H. Johnson (Johnson Family Trust)	229.00
Dennis & Cheryl Woods Trustees	158.00
104 Partners LLC	80.00
	565.61
Total	6,703.24

Kern County

Kern County is the fourth most productive agricultural county in the nation. As a semiarid region, it must rely on adequate imported water supply for its farming, and demand is expected to increase in the future for Kern County's agricultural products. Semitropic is situated within Kern County. Land use in Semitropic is primarily agricultural, with alfalfa, cotton, and vegetable comprising the largest acreage under cultivation.

Semitropic provides water to customers for agricultural use only. Throughout Semitropic, water is used for the crops in Table 3-5 (based on a 2003 crop survey) [Semitropic 2006a].

Table 3-5 Semitropic Land Use

TABLE 3-5: LAND USE IN SEMITROPIC WATER STORAGE DISTRICT		
Crop	**Acres**	**Percentage**
Alfalfa	27,088.42	16.95%
Cotton	25,323.80	15.85%
Nut crops	23,533.49	14.73%
Fallowed (temporary crops)	13,152.84	8.23%
Vegetables	25,185.79	15.76%
Grain/pasture	23,582.11	14.76%
Duck ponds	8,838.15	5.53%
Grapes	5,248.17	3.28%
Waste & miscellaneous land	6,563.01	4.11%
Fruits	680.35	0.43%
Nursery	577.48	0.36%
Total Irrigated Acres	**159,773.61**	**100%**
Undeveloped Native Vegetation	**60,785.86**	
Total District Acres	**220,559.47**	

3.3.2 Environmental Consequences

3.3.2.1 No Action

Land use conditions under the No Action Alternative would remain the same as the existing land use conditions, therefore no additional effects to land use would be associated with this alternative.

3.3.2.2 Proposed Action

Neither WWD nor Semitropic would be changing historic land or water management practices as a result of the Proposed Action. All water would move through existing facilities and be placed on established agricultural lands. None of the banked water would be used to place any untilled or new lands into production, or to convert undeveloped land to other uses. WWD would not promote additional land to be farmed. Any water made available would be the result of being excess to the demands of the water users in WWD. This might be attributable to the fact that about 250,000 acres were left out of production due to low water allocations, and because the winter turned wet. This potential 50,000 AF of water proposed for banking, however, would not be made available by additional fallowing.

Any water that is delivered to WWD as a result of this Proposed Action would be used on established agricultural lands to help offset ongoing water supply shortages faced by WWD and

prevent potential additional fallowing. Therefore, no impacts to land use are expected from the Proposed Action.

3.4 Biological Resources

3.4.1 Affected Environment

The biological resources in WWD are similar to biological resources found in other agricultural areas of the SJV. The Proposed Action area is dominated by agricultural habitat that includes field crops, row crops, orchards, and pasture. Vegetation other than crops is primarily weeds and non-native annual and biennial plants that grow in areas where weed control is either not practiced, ineffective or where life history enables these plants to persist between control actions.

The irrigated lands in Semitropic are similar to those described above. The non-irrigated lands in Semitropic include valley mesquite, saltbush habitat, and riparian-freshwater habitat. Occurrence of the latter is not common or extensive because there is a lack of freshwater to sustain this habitat throughout the year. Low lying shrubs and scattered mesquite on native lands host a variety of birds, mammals, and insects commonly including mourning dove, song sparrows, coyotes, black-tailed hare, Audubon's cottontail, snakes and lizards. The minimal marshland supports limited waterfowl nesting and provides some wintering habitat.

The conveyance facilities to be used in the Proposed Action are not managed for fisheries but some non-native warm-water fish may inhabit the canals. No listed, sensitive or special-status fish species occur in the conveyance facilities that would be used in the project.

The following list was obtained on January 8, 2010, by accessing the U.S. Fish and Wildlife (FWS) Database: http://www.fws.gov/pacific/sacramento/es/spp_lists/auto_list.cfm. The list is for the following 7 ½ minute U.S. Geological Survey quadrangles, which are overlapped by Semitropic WSD: Lone Tree Well, Hacienda Ranch, Allensworth, Delano West, Lost Hills NW, Lost Hills NE, Wasco NW, Pond, Lost Hills, Semitropic, Wasco SW, Wasco, Lokern, Buttonwillow and Rio Bravo, as well as these quads, which are overlapped by WWD: Stratford, Westhaven, Kettleman City, Huron, Guijuarral Hills, Avenal, La Cima, Coalinga, Burrel, Vanguard, Lemoore, Five Points, Westside, Harris Ranch, Calflax, Tres Pecos Farms, Lillis Ranch, Domengine Ranch, San Joaquin, Helm, Tranquillity, Coit Ranch, Levis, Cantua Creek, Chaney Ranch, Chounet Ranch, Tumey Hills, Monocline Ridge, Firebaugh, Hammonds Ranch and Broadview Farms. See Table 3-6 for the species and critical habitat on the combined list for these quadrangles and an additional species that can occur in the area of effect.

Table 3-6 Special Status Species and Critical Habitat List

Common Name	Species Name	Federal Status[1]	Effect[2]	Summary Basis for Effect Determination
Vernal pool fairy shrimp	*Branchinecta lynchi*	T	NE	No vernal pools in area of effect.
Vernal pool fairy shrimp critical habitat		CH		None in area of effect.
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	T	NE	No elderberry shrubs in area of effect.
Vernal pool tadpole	*Lepidurus packardi*	E	NE	No vernal pools in area of effect.

shrimp				
Conservancy fairy shrimp	*Branchinecta conservatio*	E	NE	No vernal pools in area of effect.
Delta smelt	*Hypomesus transpacificus*	T	NE	No downstream effects from action not already covered.
Central Valley steelhead	*Oncorhynchus mykiss*	T	NE	No effect on natural stream systems; no downstream effects from action not already covered.
California tiger salamander	*Ambystoma californiense*	T	NE	No vernal pools or seasonal wetlands in croplands; no lands in vicinity of breeding population.
California red-legged frog	*Rana aurora draytonii*	T	NE	No individuals or habitat in area of effect.
Blunt-nosed leopard lizard	*Gambelia sila*	E	NE	Croplands do not provide habitat; no conversion of lands from existing uses; no construction of new facilities.
Giant garter snake	*Thamnophis gigas*	T	NE	No individuals or habitat in area of effect.
California Condor	*Gymnogyps californianus*	E	NE	No individuals or habitat in area of effect.
Western Snowy Plover	*Charadrius alexandrinus nivosus*	T	NE	No construction of new facilities; no conversion of lands from existing uses.
California least tern	*Sternula antillarum browni*	E	NE	No change in availability or quality of habitat because no waterways or nesting areas will be created, destroyed or modified.
Giant kangaroo rat	*Dipodomys ingens*	E	NE	No conversion of lands from existing uses; no construction of new facilities.
Fresno kangaroo rat	*Dipodomys nitratoides exilis*	E	NE	No individuals or habitat in area of effect; species not trapped since 1992 but may still occur on Alkali Sink Ecological Reserve.
Fresno kangaroo rat critical habitat		CH	NE	Occurs only at Alkali Sink Ecological Reserve, outside of area of effect.
Tipton kangaroo rat	*Dipodomys nitratoides nitratoides*	E	NE	No conversion of lands from existing uses; no construction of new facilities.
San Joaquin kit fox	*Vulpes macrotis mutica*	E	NE	No construction of new facilities; no conversion of lands from existing uses. Increased water supplies to patches of cropland within vast area of agricultural habitat during water shortage years would not affect the species.
Buena Vista Lake shrew	*Sorex ornatus relictus*	E	NE	Known from Kern National Wildlife Refuge and Buttonwillow Drive and Hiway 58. Proposed Action would not alter land use and no construction would occur.
Palmate-bracted bird's-beak	*Cordylanthus palmatus*	E	NE	Does not inhabit croplands or lands fallowed and untilled for less than three years
San Joaquin woolly-threads	*Monolopia congdonii*	E	NE	No records within 10 years; species not expected to colonize bare soil in disturbed croplands.
California jewelflower	*Caulanthus californicus*	E	NE	Does not inhabit croplands or lands fallowed and untilled for less than three years.
Kern mallow	*Ermalche kernensis*	E	NE	No conversion of lands from existing uses; no construction of new facilities.

[1]T – Threatened, E - Endangered, CH – Critical habitat
[2]NE – No effect to the species or critical habitat determination under ESA

The Central Valley spring-run chinook salmon, Sacramento River winter-run chinook salmon, Central Valley steelhead and North American green sturgeon (southern distinct population segment [DPS]), as well as designated critical habitat for the Central Valley spring-run chinook salmon, Sacramento River winter-run chinook salmon, Central Valley steelhead, North American green sturgeon (southern DPS) and also for the delta smelt, require consideration due to the use of CVP and SWP facilities that pump water from the Delta.

Special status species known to occur within WWD are the California least tern, Tipton kangaroo rat, San Joaquin kit fox, and the blunt-nosed leopard lizard. Special status species known to occur in areas of undeveloped native vegetation in Semitropic are the Tipton kangaroo rat, the San Joaquin kit fox, and the blunt-nosed leopard lizard.

3.4.2 Environmental Consequences

3.4.2.1 No Action

Under the No Action Alternative there would be no impacts to wildlife and special status species, as no new facilities would be constructed and deliveries would continue to occur as they have in the past. Environmental conditions for special status wildlife species and habitats under the No Action Alternative would be the same as they would be under existing conditions described in the Affected Environment; therefore, no additional effects to special status species or critical habitats are associated with this alternative.

3.4.2.2 Proposed Action

The Proposed Action would be consistent with the current operations at WWD and Semitropic and would not adversely impact CVP and SWP deliveries. The Proposed Action would not prevent water deliveries to refuges or preclude the Environmental Water Account from negotiating actions to obtain water from willing sellers in accordance with the CVPIA. Critical habitat has been designated by the FWS for vernal pool species; one unit of critical habitat for vernal pool fairy shrimp is in the vicinity (~5 miles) from the boundaries of Semitropic, and another is within about 25 miles, but neither is within the area that would be affected by the Proposed Action.

The water delivered to lands in WWD would be used to irrigate crops already in cultivation. No new facilities would be required to bring the water to these locations, and no native or untilled lands would be brought into production by the Proposed Action. Orchards provide some habitat for the San Joaquin kit fox, but this habitat is relatively poor quality and would not be affected by the Proposed Action. Within WWD boundaries, there are a number of records in the California Natural Diversity Database (CNDDB) for species listed under the ESA, although the California least tern is not identified on the list for the area. The Proposed Action would not change the availability or quality of any habitat for the California least tern, because no waterways or nesting areas would be created, destroyed or modified in any way.

The Proposed Action only addresses use and storage of water that would be made available SOD after it has been diverted from natural waterways and placed in man-made distribution systems (canals/reservoirs and groundwater banks). There would be no effect on the listed salmonids, green sturgeon or the delta smelt and their respective critical habitats. This Proposed Action would have no effect on natural stream systems that comprise or contain salmonid critical habitat, nor on any stream systems that comprise the habitat of the green sturgeon. The Proposed Action would not affect the primary constituent elements of delta smelt critical habitat. There would be no effect to this suite of species and their designated critical habitat which have not already been addressed under the ESA.

Based on the above effects analysis, Reclamation has determined that the Proposed Action would have no effect on threatened and endangered species or their designated critical habitats and no further consultation is required under Section 7 of the ESA.

3.5 Cultural Resources

3.5.1 Affected Environment

A cultural resource is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation that outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (NRHP). Those resources that are on, or eligible for inclusion in, the NRHP are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 Code of Federal Regulations (CFR) Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking will have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects (APE), determine if historic properties are present within that APE, determine the effect that the undertaking would have on historic properties, and consult with the State Historic Preservation Office (SHPO), to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

The San Joaquin Valley is rich in historical and prehistoric cultural resources. Cultural resources in this area are generally prehistoric in nature and include remnants of native human populations that existed before European settlement. Prior to the 18th Century, many Native American tribes inhabited the Central Valley. It is possible that many cultural resources lie undiscovered across the valley. The San Joaquin Valley supported extensive populations of Native Americans, principally the Northern Valley Yokuts, in the prehistoric period. Cultural studies in the San Joaquin Valley have been limited. The conversion of land and intensive farming practices over the last century has probably destroyed many Native American cultural sites.

3.5.2 Environmental Consequences

3.5.2.1 No Action

Under the No Action Alternative, there would be no impacts to cultural resources since there would be no change in operations and no ground disturbance. Conditions related to cultural resources would remain the same as exiting conditions.

3.5.2.2 Proposed Action

The Proposed Action is administrative in nature and is the type of activity that has no potential to affect historic properties pursuant to the regulations at 36 CFR Part 800.3(a)(1). There would be

no modification of water conveyance facilities and no activities that would result in ground disturbance. Because there would be no potential to affect historic properties, no cultural resources would be impacted as a result of implementing the Proposed Action.

3.6 Indian Trust Assets

3.6.1 Affected Environment

Indian trust assets (ITA) are legal interests in assets that are held in trust by the U.S. Government for federally recognized Indian tribes or individuals. The trust relationship usually stems from a treaty, executive order, or act of Congress. The Secretary of the interior is the trustee for the United States on behalf of federally recognized Indian tribes. "Assets" are anything owned that holds monetary value. "Legal interests" means there is a property interest for which there is a legal remedy, such a compensation or injunction, if there is improper interference. Assets can be real property, physical assets, or intangible property rights, such as a lease, or right to use something. ITA can not be sold, leased or otherwise alienated without United States' approval. Trust assets may include lands, minerals, and natural resources, as well as hunting, fishing, and water rights. Indian reservations, rancherias, and public domain allotments are examples of lands that are often considered trust assets. In some cases, ITA may be located off trust land.

Reclamation shares the Indian trust responsibility with all other agencies of the Executive Branch to protect and maintain ITA reserved by or granted to Indian tribes, or Indian individuals by treaty, statute, or Executive Order.

The nearest ITA is Santa Rosa Rancheria, which is approximately 6 miles east of the Proposed Action location.

3.6.2 Environmental Consequences

3.6.2.1 No Action

Under the No Action Alternative there would be no impacts to ITA, as there are no ITA in the action area.

3.6.2.2 Proposed Action

There are no tribes possessing legal property interests held in trust by the United States in the water involved with this action, nor is there such a property interest in the lands designated to receive the water proposed in this action, therefore ITA would not be affected by this action.

3.7 Socioeconomic Resources

3.7.1 Affected Environment

The socioeconomic setting is dependant upon population, employment, housing, and revenues earned by the primary private employers. As stated earlier, WWD and Semitropic are comprised primarily of irrigated agricultural lands. There are many communities across the area where farm workers reside. There are many small businesses that support agriculture such as feed and fertilizer sales, machinery sales and service, pesticide applicators, transport, packaging, and marketing.

WWD lies within an area of western Fresno and Kings Counties. Agriculture is vitally important in both counties, with agriculture being Fresno County's major industry. Fresno County consistently ranks among the top agricultural counties in the country's agricultural production and employment. Hispanic communities in Fresno and Kings Counties, though relatively small and similar in size, have undergone varying rates of population growth over the years, which can be heavily influenced by the agricultural economy (Reclamation 2004). The shift in cropping patterns to more permanent crops has had some economic impacts to WWD, as well. Permanent crops such as trees and vines require year-round maintenance and tend to provide stable employment at higher wages. Spring and fall vegetable crops, although seasonal, are labor-intensive and generate strong on-farm revenues that support regional job creation and economic growth (WWD 2006).

Semitropic lies in Kern County. Kern County's economy is based on the diverse assets of agriculture, oil, aerospace and transportation and warehousing services. Despite this seeming economic diversification, the overall performance of the county has been mixed in recent years when compared to the State and other counties, although noticeable progress has been made overall. This is due in part to the cyclical and uncertain nature of oil and aerospace which are often affected by factors beyond Kern County. Further, the agricultural sector consists mostly of low paying and often seasonal employment which limits the positive multipliers within the economy.

Lower business costs, the availability of land, and relatively lower costs of living also add to Kern's attractiveness and competitive advantage. On the other hand, lackluster new business growth, lower educational attainment and skills gaps, out migration of young people, a high incidence of low-to-moderate income residents, and poor air quality issues (especially within the SJV) are noted disadvantages in Kern County (Kern 2005).

3.7.2 Environmental Consequences

3.7.2.1 No Action

Under the No Action Alternative, decreased agricultural activity would affect the availability of on farm jobs and the profitability of farm related industry as well as farming itself. Socioeconomic resources would be adversely affected by the reduction of farm operations due to reduced water supplies. Some fields would not be planted and permanent crops would be stressed. Demand for local labor and farm supplies would be reduced. Under the No Action Alternative, there could be impacts to socioeconomic resources due to fallowing acres but they may be temporary.

3.7.2.2 Proposed Action

The return delivery of CVP water to WWD would provide water to the area in future ongoing water supply shortages and would help sustain existing croplands in WWD. Businesses rely on these crops to maintain jobs. The Proposed Action would not induce population growth within WWD, nor would seasonal labor requirements change. Agriculturally dependent businesses would be minimally affected by the Proposed Action. No adverse effects to public health and safety would occur. The Proposed Action would not have highly controversial or uncertain environmental effects or involve unique or unknown environmental risks. The Proposed Action

would continue to support the economic vitality in the region. Semitropic and WWD are responsible for managing water for the benefit of agriculture, since they exist to support growers within their respective districts. Maximizing the use of operational exchanges is beneficial to local economic conditions and agricultural employment.

3.8 Environmental Justice

3.8.1 Affected Environment

Executive Order (EO) 12898 (February 11, 1994) mandates Federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.

The population of the Central Valley is presently over 5 million people, and is projected to triple by 2040 (USGS 1999). Table 3-5 characterizes the community by county (Census Bureau 2009). The City of Fresno is now the largest city in the Central Valley, and also has the fastest growing population. This urban growth has changed the social and cultural framework of the SJV; agricultural lands in the gravel-bedded reach near Fresno are giving way to aggregate mining in the river corridor and to urban expansion in the upland areas, which reduces the agricultural base and increases the urban base. In 1999, the United States Geologic Survey reported that the American Farmland Trust, a national organization that focuses on farmland preservation, has projected a loss of more than one million acres of Central Valley farmland by the year 2040 if current land use conversions continue (USGS 1999).

Table 3-7 Community Characteristics by County

	Fresno County		Kings County		Kern County		Merced County		California	
General Characteristics	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
White	738,232	81.2	125,293	84.0	683,591	85.4	209,200	85.0	28,155,606	76.6
Black or African American	52,731	5.8	12,380	8.3	51,229	6.4	10,091	4.1	2,462,697	6.7
American Indian/Alaskan Native	18,183	2.0	3,281	2.2	14,408	1.8	3,938	1.6	441,080	1.2
Asian	79,096	8.7	4,773	3.2	32,018	4.0	16,244	6.6	4,594,583	12.5
Native Hawaiian/Pacific Islander	1,818	0.2	447	0.3	1,601	0.2	738	0.3	147,027	0.4
Hispanic/Latino (of any race)	442,758	48.7	73,534	49.3	377,016	47.1	130,196	52.9	13,452,940	36.6
Two or more races	19092	2.1	2,983	2.0	16,810	2.1	5,907	2.4	955,673	2.6
Average household size	3.09		3.18		3.03		3.25		2.87	
Median household income	$46,547		$45,087		$46,639		$43,789		$59,928	
Individuals below poverty level	181,831	20	29,006	19.4	144,883	18.1	47,501	19.3	4,557,827	12.4

3.8.2 Environmental Consequences

3.8.2.1 No Action

The No Action alternative would not result in any adverse effects unique to minority or low-income populations in the affected area. The No Action Alternative would have no impact on environmental justice. Semitropic and WWD would continue to engage opportunities to maximize management of their water supply within the facilities available to them either in district or utilizing other district's facilities as approved by Reclamation and DWR. Conditions would be the same as the existing conditions; therefore, no additional impacts are associated with this alternative.

3.8.2.2 Proposed Action

The Proposed Action would allow CVP water to be conveyed through existing facilities to an established water banking facility and then returned to WWD in future water supply shortages. The Proposed Action would not cause dislocation, changes in employment, or increase flood, drought, or disease. The Proposed Action would not disproportionately impact economically disadvantaged or minority populations.

3.9 Air Quality

3.9.1 Affected Environment

The Proposed Action lies within the San Joaquin Valley Air Basin (SJVAB), the second largest air basin in California. Air basins share a common "air shed," the boundaries of which are defined by surrounding topography. Although mixing between adjacent air basins inevitably occurs, air quality conditions are relatively uniform within a given air basin. The San Joaquin Valley experiences episodes of poor atmospheric mixing caused by inversion layers formed when temperature increases with elevation above ground, or when a mass of warm, dry air settles over a mass of cooler air near the ground.

Despite years of improvements, the SJVAB does not meet state and federal health-based air quality standards for Volatile Organic Compounds/reactive organic gas (VOC/ROG) and nitrogen oxide (NO_x) but does for particulate matter $(PM)_{10}$ and carbon monoxide (CO). In order to protect health, the San Joaquin Valley Air Pollution Control District (SJVAPCD) is required by federal law to adopt stringent control measures to reduce emissions.

Section 176 (C) of the Clean Air Act [CAA] (42 USC 7506 (C)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the Federal Clean Air Act (42 USC 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with SIP's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements will, in fact, conform to the applicable SIP before the action is taken.

On November 30, 1993, the Environmental Protection Agency (EPA) promulgated final general conformity regulations at 40 Code of Federal Regulations (CFR) 93 Subpart B for all federal activities except those covered under transportation conformity. The general conformity regulations apply to a proposed federal action in a non-attainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutant caused by the Proposed Action equal or exceed certain de minimis amounts thus requiring the federal agency to make a determination of general conformity.

In addition to Federal air quality regulations, the National Environmental Policy Act (NEPA) requires projects to additionally meet state and local standards. According to the Kern County California Environmental Quality Act Implementation Document (2004), Projects located in the

SJVAPCD will be subject to the following significance thresholds (see below) specified for each air district, in addition to Federal standards. Projects that exceed the following thresholds shall be considered significant.

3.9.2 Environmental Consequences

No Action

Under the No Action Alternative, Reclamation would not approve the banking and exchange of up to 50,000 AF of WWD's allocated 2009-10 CVP water. Baseline trends in air quality can reasonably be expected to continue if no action is taken. Total air emissions are expected to increase, even assuming that emissions allowable from individual and mobile sources would be regulated more strictly. Increased population and associated increases in the need for more vehicles would be a contributor to the rise in pollutant emissions. Therefore, the No Action Alternative would have minimal effects on air quality.

Proposed Action

The Proposed Action would allow CVP water to be conveyed through existing facilities to an established water banking facility and then returned to WWD in future water supply shortages. The use of groundwater would require pumps to lift the groundwater to the surface. Electric pumps would be used to recover stored groundwater. These pumps would not emit pollutants at the pump; the source of the pollutants originates at the power plant. Power plants are permitted based on their maximum operating potential. The additional electricity would not result in the power plant exceeding operating capacity, and, thus, the applicable emissions permit. A majority of power is derived from fossil fuel combusted at power plants to generate electricity. CO_2 is the primary pollutant emitted as a result of the oxidation of the carbon in the fuel. NO_x and PM_{10} are also emitted.

In summary, the construction and operation of the Proposed Action would not cause an adverse impact to air quality in the SJVAB or exceed applicable standards. Therefore, there would be no adverse impacts to air quality from the Proposed Action.

3.10 Global Climate Change

3.10.1 Affected Environment

Climate change refers to significant change in measures of climate (e.g., temperature, precipitation, or wind) lasting for decades or longer. Many environmental changes can contribute to climate change [changes in sun's intensity, changes in ocean circulation, deforestation, urbanization, burning fossil fuels, etc.] (EPA 2008a).

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). Some GHG such as carbon dioxide (CO_2) occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHG (e.g., fluorinated gases) are created and emitted solely through human activities. The principal GHG that enter the atmosphere because of human activities are: CO_2, methane (CH_4), nitrous oxide, and fluorinated gasses (EPA 2008).

During the past century humans have substantially added to the amount of GHG in the atmosphere by burning fossil fuels such as coal, natural gas, oil and gasoline to power our cars, factories, utilities and appliances. The added gases, primarily CO_2 and CH_4, are enhancing the natural greenhouse effect, and likely contributing to an increase in global average temperature and related climate changes. There are uncertainties associated with the science of climate change (EPA 2008b).

More than 20 million Californians rely on the SWP and CVP. Increases in air temperature may lead to changes in precipitation patterns, runoff timing and volume, sea level rise, and changes in the amount of irrigation water needed due to modified evapotranspiration rates. These changes may lead to impacts to California's water resources and project operations.

While there is general consensus in their trend, the magnitudes and onset-timing of impacts from global climate change are uncertain and are scenario-dependent (Anderson et al. 2008).

3.10.2 Environmental Consequences

3.10.2.1 No Action

Implementation of the No Action Alternative would have minimal effects on the composition of the atmosphere and therefore would have no direct or indirect effects to climate.

3.10.2.2 Proposed Action

The Proposed Action would not include any change on the composition of the atmosphere and therefore would have no direct effects on changes in climate.

Water allocations are made dependent on hydrologic conditions and environmental requirements. Since Reclamation operations and allocations are flexible, any changes in hydrologic conditions due to global climate change would be addressed within Reclamation's operation flexibility and therefore water resource changes due to climate change would be the same with or without the Proposed Action.

3.11 Cumulative Effects

The Proposed Action would allow WWD to bank available CVP water for future delivery to meet crop demands during future water supply shortages. No native or previously untilled lands would be put into production. The Proposed Action would maintain existing land uses and would not contribute to cumulative changes or impacts to land uses or planning, air quality, cultural resources, Indian trust assets, socioeconomic resources, environmental justice, or global climate change. Therefore, there would be no cumulative effects as a result of the Proposed Action.

Section 4 Consultation and Coordination

4.1 Fish and Wildlife Coordination Act (16 USC § 651 et seq.)

The Fish and Wildlife Coordination Act (FWCA) requires that Reclamation consult with fish and wildlife agencies (federal and state) on all water development projects that could affect biological resources. The implementation of the CVPIA has been jointly analyzed by Reclamation and the FWS and is being jointly implemented. The Proposed Action does not involve construction of a water development project and therefore, the FWCA does not apply.

4.2 Endangered Species Act (16 USC § 1531 et seq.)

Section 7 of the ESA requires Federal agencies, in consultation with the Secretary of the Interior and/or Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species.

Reclamation has determined the Proposed Action would have no effect on threatened and endangered species or their designated critical habitat and no further consultation is required under Section 7 of the ESA. This determination is based on the fact that the diversion of this water would not change pumping conditions in the Delta to protect fish. Reclamation and DWR would continue to make decisions whether to pump and convey water based on external conditions independent of the Proposed Action. Water is pumped from the Delta in accordance with the Biological Opinions on the Continued Long-Term Operations of CVP and SWP and other regulatory requirements to protect fish and water quality resources. Similar amounts of water are pumped and conveyed by Reclamation and DWR based on demands and capacity.

The Proposed Action would support existing land uses and conditions. No native lands would be converted or cultivated with CVP water. Therefore, the Proposed Action would have no effect on federally proposed or listed threatened or endangered species or their proposed or designated critical habitat.

4.3 National Historic Preservation Act (16 USC § 470 et seq.)

Section 106 of the NHPA requires federal agencies to evaluate the effects of federal undertakings on historical, archaeological and cultural resources. Due to the nature of the Proposed Action, there will be no effect on any historical, archaeological, or cultural resources and no further compliance actions are required.

4.4 Migratory Bird Treaty Act (16 USC § 703 et seq.)

The Migratory Bird Treaty Act (MBTA) implements various treaties and conventions between the U.S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory

birds. Unless permitted by regulations, the MBTA provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the MBTA, the Secretary of the Interior may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg will be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns.

The Proposed Action would be in compliance with the MBTA.

4.5 Clean Water Act (16 USC § 703 et seq.)

Section 401

Section 401 of the Clean Water Act (CWA) (33 USC § 1311) prohibits the discharge of any pollutants into navigable waters, except as allowed by permit issued under sections 402 and 404 of the CWA (33 USC § 1342 and 1344). If new structures (e.g., treatment plants) are proposed, that would discharge effluent into navigable waters, relevant permits under the CWA would be required for the project applicant(s). Section 401 requires any applicant for an individual U. S. Army Corps of Engineers dredge and fill discharge permit to first obtain certification from the state that the activity associated with dredging or filling will comply with applicable state effluent and water quality standards. This certification must be approved or waived prior to the issuance of a permit for dredging and filling.

No pollutants would be discharged into any navigable waters under the Proposed Action so no permits under Section 401 of the CWA are required.

Section 404

Section 404 of the CWA authorizes the U. S. Army Corps of Engineers to issue permits to regulate the discharge of "dredged or fill materials into waters of the United States" (33 USC § 1344). No activities such as dredging or filling of wetlands or surface waters would be required for implementation of the Proposed Action, therefore permits obtained in compliance with CWA section 404 are not required.

4.8 Clean Air Act (42 USC § 7506 (C))

Section 176 of the CAA requires that any entity of the Federal government that engages in, supports, or in any way provided financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable SIP required under Section 110 (a) of the CAA (42 USC 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with a SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements will, in fact conform to the applicable SIP before the action is taken.

All extraction wells have electric motors. There are no emissions from electrical engines; therefore, a conformity analysis is not required under the CAA and there would be no impact on air quality.

4.6 Executive Order 11988 – Floodplain Management and Executive Order 11990-Protection of Wetlands

EO 11988 requires Federal agencies to provide leadership and take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, and health and welfare among other activities. To accomplish these goals agencies would be instructed to prepare floodplain assessments for actions located within or affecting flood plains, and similarly, EO 11990 places similar requirements for actions in wetlands. Although the Proposed Action does reduce potential flood flows which meets the goals of the EO, the Proposed Action does not affect the flood plain itself and therefore the Proposed Action does not require Reclamation to take the actions required in EO 11988. The Proposed Action would not affect wetlands and therefore the Proposed Action would not affect either EO.

Section 5 List of Preparers and Reviewers

Patti Clinton, Natural Resources Specialist, SCCAO
Patricia Rivera, Native American Affairs, MP
Amy Barnes, Archaeologist, MP
Rain Healer, Natural Resources Specialist, SCCAO
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Brian Hauss, The Water Agency, Inc.

Section 6 References

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Clinton, Patricia L

From: Rivera, Patricia L
Sent: Monday, November 09, 2009 9:35 AM
To: Clinton, Patricia L
Subject: RE: EA-09-157 - Westlands WD Storage/Exchange with Semitropic Draft EA

Patti,

I reviewed the proposed project to approve a water banking project in which WWD would bank up to 50,000 AF of its allocated 2009-10 CVP contract supply prior to March 1, 2010 in Semitropic's facilities for use by WWD at a later date. The CVP water to be banked would be in excess of WWD's demands.

WWD would then recover up to 20,000 AF per year of any banked water during ongoing water supply shortages when water supply is insufficient to meet demand. Banking would occur prior to March 1, 2010. Water would be returned within 10 years of the initial potential banking deposits, so any water banked in water year 2009 must be returned by water year 2019, unless Reclamation, WWD and Semitropic can agree to terms for an extension which would require further environmental analysis.

It is anticipated that the delivery of up to 50,000 AF of 2009-10 allocated WWD CVP water would be conveyed to Semitropic during the months of December through February of 2010. Ten percent of the CVP water delivered to Semitropic would be left behind to compensate for aquifer losses as required by Semitropic's Memorandum of Understanding with the surrounding districts. The remaining balance of WWD water delivered would be credited to either the Poso Creek account, or an interim WWD account. Semitropic would use the delivered CVP water, in-lieu of pumping groundwater, for irrigation purposes within Semitropic. WWD would use banked supplies, returned via exchange, for irrigation purposes on established agricultural lands within WWD. WWD could never withdraw more water from the bank than its current banked balance.

It is also anticipated that a groundwater banking agreement between WWD and Semitropic will be entered into for a period of 10 years, concluding in 2019, or until all of the banked CVP water has been returned, whichever is sooner. Poso Creek and WWD propose to work together to bank up to 50,000 AF of WWD 2009-10 allocated CVP water supply prior to March 1, 2010.

The potential delivery and banking of up to 50,000 AF of 2009-10 allocated WWD CVP supply would only occur if there were excess conditions for WWD water. This might occur in the remainder of 2009-10 given the changes in cropping and water delivery patterns associated with the 10 percent allocation, and the potential for wet conditions during the winter of 2009-10.

According to the agreement with Semitropic, WWD will be a Lower Priority Banking Partner and can bank water only when Semitropic has capacity. As previously mentioned, Poso Creek has entered into a long term agreement in which Poso Creek is a full banking partner invested at 60,000 AF of guaranteed storage capacity in the Semitropic water bank (with a remaining net banked amount of 14,859 AF of CVP water on account). Poso Creek has this reserved storage space, but WWD, in accordance with their present agreement, does not yet have reserved storage space in the bank and is limited to banking only the quantity Semitropic can accommodate at that time. Hence, Poso Creek and WWD may not be able to bank the entire desired amount if Semitropic does not have capacity. The Proposed Action is subject to the following conditions:

a) The water to be temporarily diverted and stored would only be used for agricultural purposes, within the boundaries of Semitropic and WWD as described;

b) The water would only be used for beneficial purposes and in accordance with Federal Reclamation law and guidelines;

c) The water would not be used to place untilled or new lands into production, nor to convert undeveloped land to other uses;

d) The Proposed Action would not affect CVP or State Water Project (SWP) operations; all supplies would be previously scheduled for delivery points SOD, and would not require additional delta exports;

e) The movement of the water would not require the construction of any new water diversion or conveyance facilities.

Only existing facilities in Semitropic would be utilized for banking or extraction. No new construction would occur to effectuate the Proposed Action.

The proposed project does not affect Indian Trust Assets. The nearest ITA is Santa Rosa Rancheria, which is approximately 6 miles East of the project location.

Patricia

Clinton, Patricia L

From: Barnes, Amy J
Sent: Friday, November 06, 2009 8:13 AM
To: Clinton, Patricia L; Leigh, Anastasia T; Nickels, Adam M; Bruce, Brandee E; Overly, Stephen A
Subject: 09-157 Westlands WD Banking with Semitropic (10-SCAO-047)

Tracking #10-SCAO-047

Project: 09-157 Westalands WD Banking with Semitropic

Location: Westlands Water District and Semitropic Water Storage District

The proposed activities associated with Reclamation approving a water banking project in which Westlands Water District (WWD) will bank up to 50,000 acre feet (AF) of its allocated 2009-10 CVP water supply with Semitropic has no potential to affect historic properties. Banking would occur prior to March 1, 2010 and water would be returned within 10 years of the initial potential banking deposits. WWD will recover up to 20,000 AF per year of any banked water during ongoing water supply shortages when water supply is insufficient to meet demands. Water will be conveyed through existing facilities. These conveyance systems will not be modified for completion of this project. There will be no new ground disturbance and no new land will be put into agricultural production as a direct result of transferring water through existing facilities and banking water.

As the proposed action has no potential to affect historic properties pursuant to 36 CFR Part 800.3(a)(1), no additional consideration under Section 106 of the National Historic Preservation Act is required.

Thank you for the opportunity to review the proposed action. Please place a copy of this concurrence with the EA administrative record. Please also replace the entire text of the "Cultural Resources" Section with the following text.

3.5 Cultural Resources

A cultural resource is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation that outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (NRHP). Those resources that are on, or eligible for inclusion in, the NRHP are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 Code of Federal Regulations (CFR) Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking will have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects (APE), determine if historic properties are present within that APE, determine the effect that the undertaking will have on historic properties, and consult with the State Historic Preservation Office (SHPO), to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

The San Joaquin Valley is rich in historical and prehistoric cultural resources. Cultural resources in this area are generally prehistoric in nature and include remnants of native human populations that existed before European settlement. Prior to the 18th Century, many Native American tribes inhabited the Central Valley. It is possible that many cultural resources lie undiscovered across the valley. The San Joaquin Valley supported extensive populations of Native Americans, principally the Northern Valley Yokuts, in the prehistoric period. Cultural studies in the San Joaquin Valley have been limited. The conversion of land and intensive farming practices over the last century has probably destroyed many Native American cultural sites.

The approval of the Proposed Action is the type of activity that has no potential to affect historic properties. Up to 50,000 acre feet of water will be banked annually utilizing existing facilities. These conveyance systems will not be modified for completion of this project. There will be no new ground disturbance and no new land will be put into agricultural production as a direct result of transferring water through existing facilities. Because the action will result in no potential to affect historic properties, there will be no impacts to cultural resources as a result of the implementation of the Proposed Action.

No Action
Under the No Action Alternative, there are no impacts to cultural resources since there would be no change in operations and no ground disturbance. Conditions related to cultural resources would remain the same as exiting conditions.

Proposed Action
The proposed action is administrative in nature and is the type of activity that has no potential to affect historic properties pursuant to the regulations at 36 CFR Part 800.3(a)(1). There will be no modification of water conveyance facilities and no activities that will result in ground disturbance. Because there is no potential to affect historic properties, no cultural resources will be impacted as a result of implementing proposed action.

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